Results of the Winter Creel Survey Conducted on Fairy, Mary, Peninsula and Vernon Lakes in 2008

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Fairy, Mary, Peninsula and Vernon are four large lakes located near the Town of Huntsville, within the Bracebridge administrative area (Table 1, Figure 1). Fairy, Peninsula and Vernon Lakes are commonly referred to as the Huntsville Lakes. They are connected by navigable channels and the Town of Huntsville is located on the river between Vernon and Fairy Lakes. Mary Lake is several kilometres downstream of the other three and connected by a navigation lock on the North Muskoka River.

The lakes support a varied fish community with the primary target fish for anglers during the winter season being lake trout and northern pike. All four lakes historically supported natural populations of lake trout. Currently, populations are supported almost entirely by stocking (Table 2). Northern pike are not native to the lakes, but became established in the 1980's. Walleye have become established in Lake Vernon recently and are expected to disperse through all four lakes.

A creel survey was conducted on all four lakes during the winter season of 2008. The survey was completed by fishery staff stationed in the Ministry of Natural Resources office near Bracebridge. No previous creel studies have been conducted on any of these four lakes.

The purpose of this survey was to determine angler effort and harvest, especially of stocked lake trout, and to obtain responses from a management survey distributed to interviewed parties. The results of that questionnaire will not be included in this report. The creel survey and management survey were being done as part of a broader review of fisheries management in the lakes.

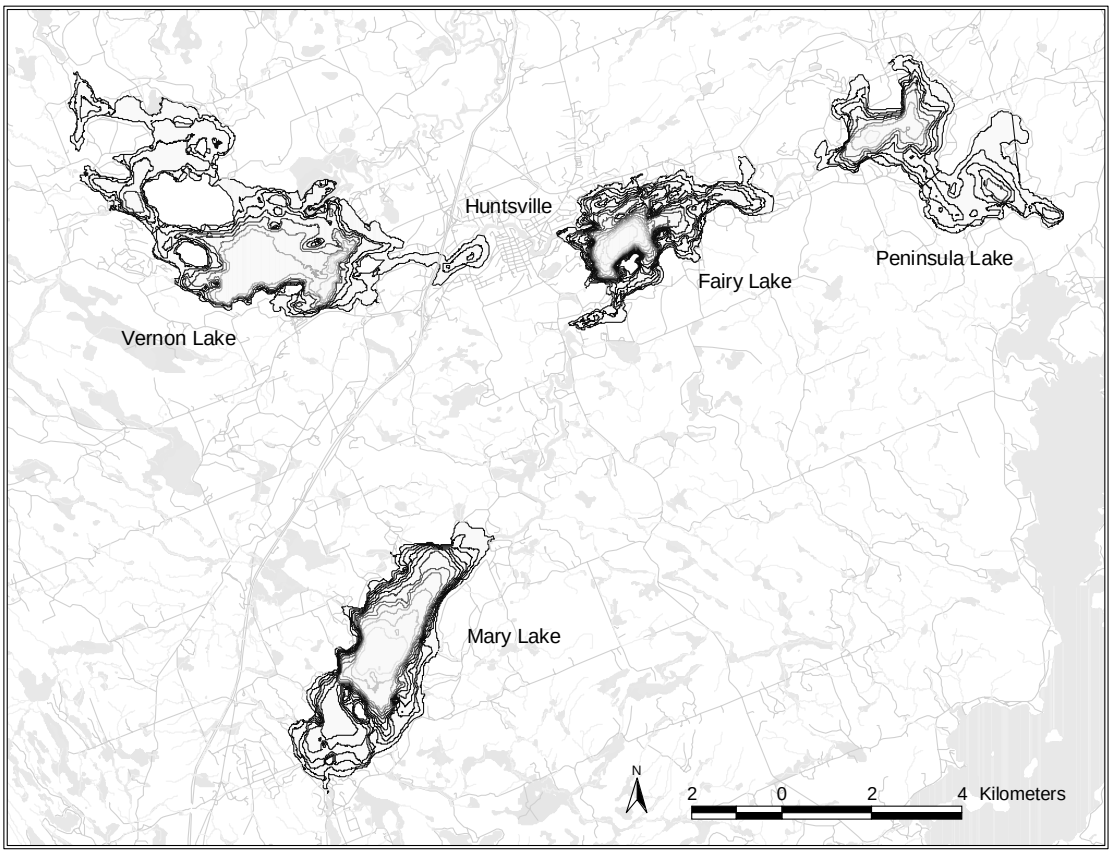


Figure 1 Map showing location and bathymetry of Huntsville lakes (contour interval 5 m).

Table 1 Comparison of lake physical features.

	Fairy Lake	Mary Lake	Peninsula Lake	Vernon Lake
Area (ha)	712	1065	865	1505
Mean Depth (m)	22	25	10	13
Secchi Depth (m)	3.2	3.4	4.4	3.1

Table 2 Recent lake trout stocking rates, Huntsville Lakes, 1995-2005.

	Fairy Lake	Mary Lake	Peninsula Lake	Vernon Lake
Number/event	2500	2125	3000	5400
Number/year	833	2125	1500	1800
Area (15-25 m, ha)	220	356	222	540
#/ha/event	11.4	6.0	13.5	10.0
#/ha/year	3.8	6.0	6.8	3.3

Methods

The survey was conducted between the dates of January 19th and March 31st , 2008. It was originally scheduled to begin on January 1st but poor early ice conditions forced a delay in the start.

This creel survey was completed utilizing the roving method; though nearly all activity was recorded relatively close to local access points and angling parties were mostly visited on foot. The day length was eight hours; 09:00 to 17:00. Spatial stratification was used to identify each body of water included in the survey (Table 3). Two day-type strata were distinguished – week days and weekend days. Due to different fishing preferences, two modes were used: open ice and ice hut.

Table 3 Sample strata, Huntsville Lakes winter creel survey, 2008.

	Number	Name	Description
Season	1	01	Jan 19 – March 31
Period	1	01	09:00 – 17:00
Space	4	02 03 04 05	Peninsula Lake Fairy Lake Vernon Lake Mary Lake
Mode	2	03 04	Ice Hut Open Ice
Day Type	2	01 02	Week Day Weekend

The angling day was divided into four, two-hour sample periods. Each sample day, two lakes were surveyed, for two hours each (travel time between lakes was included in the two hour period). The lakes were paired as follows: Peninsula and Fairy Lakes, Vernon and Mary Lakes. Activity counts were progressive and done from various vantages and access points (Table 4). Because almost all observed effort occurred within walking distance of access points and large areas of all lakes could be viewed from a few road-accessible vantage points, traveling the lakes by snowmobile or ATV was not required.

Table 4 Major vantage (v) and access (a) points, Huntsville Lakes winter creel survey, 2008.

Fairy Lake	Mary Lake	Peninsula Lake	Vernon Lake
Rogers Cove Dr.(a), Golden Pheasant Dr. (v), Springfield Road (v)	Port Sydney (a), West Point Sands Rd (a), Griffin Lodge (v),	Tally Ho (a), Maplehurst Rd (a) North Portage Rd (a)	Hutcheson Beach Rd. (a), Skyhills Rd (v), Vernon Shores (v), North Bethune Rd (a)

Standard creel activity and interview forms were used. Option code one was whether any members of the party were given the management survey.

Few harvested fish were encountered or sampled. No fish data are included in this report.

Data were entered into FISHNET 2 as project SC08_HUN.

Results

The survey was conducted from January 19 to March 31. A total of 38 different days were sampled; with 44 effort counts occurring on Peninsula Lake, 32 on Fairy, 34 on Vernon and 42 on Mary (Table 5). Peninsula and Vernon Lakes were sampled with a higher intensity because of the higher level of activity. Usually there was only one count per lake per day, but several weekend days on Peninsula and Mary had two sample periods and counts scheduled as there were not enough weekend days available to accommodate the desired number of activity counts.

Table 5 Sampling summary.

Lake	Effort Counts	Interviews
Fairy Lake	32	1
Mary Lake	42	58
Peninsula Lake	44	75
Vernon Lake	34	7

Effort, Catch and Harvest

The estimated total angler effort on all four lakes, was 6,093 ang-hr (Table 6, Figure 2). Of this total, Peninsula received the greatest proportion with 3425 ang-hr; Mary Lake contributed 2194 ang-hr, Vernon Lake had 435 ang-hr, and Fairy Lake had only 39 hours of angler effort.

Table 6: Estimated angling effort, Fairy, Mary, Peninsula and Vernon Lakes, 2008.

Space	Target	Estimated Activity (Angler Hours)	Estimated Catch Count	Estimated Harvest Count	CUE (targeted)	Estimated Activity (Angler Hours/ha)
Fairy Lake	All	39				0.05
Mary Lake	All	2194				2.06
	Lake Trout	2194	113	113	0.051	2.06
	Northern Pike	1345	18	11	0.013	1.26
Peninsula Lake	All	3425				3.96
	Lake Trout	2177	172	70	0.079	2.52
	Northern Pike	2199	43	39	0.016	2.54
	Yellow Perch	749	276	200	0.167	0.87
Vernon Lake	All	435				0.29
	Lake Trout	435	0	0	0	0.29
	Northern Pike	134	5	0	0.00	0.09

On Peninsula Lake, similar amounts of effort were directed at northern pike (2199 ang-hr) and lake trout (2177 ang-hr) or about 2.5 ang-hr/ha for each species. It was estimated that 43 pike were caught and 39 were harvested (Figure 3 and 4). For lake trout, 172 were caught and 70 were harvested.

Peninsula Lake was also the only lake surveyed where yellow perch were targeted and caught during the winter season; estimated angler hours of effort was roughly one-third of the other two species (749 ang-hr). It was estimated that 276 were caught and 200 harvested.

Mary Lake received about two-thirds of the total effort as Peninsula Lake. Targeted lake trout effort was similar though, at 2194 ang-hr. Effort targeted at pike was lower than for Peninsula, at 1345 ang-hr. As Mary is larger than Peninsula Lake, the relative effort for both species was lower than at Peninsula: 2.1 ang-hr/ha for lake trout and 1.3 ang-hr/ha for pike.

Vernon Lake received only 435 ang-hr of effort, with all anglers targeting lake trout and some also targeting pike (134 ang-hr). One pike was observed to be caught, resulting in an estimated catch of 5 fish. No lake trout were observed to be caught. One angler caught a smelt incidentally.

On Fairy Lake, only one angler (open ice) was observed all winter. One hut was present for a period of time but it was never observed to have any activity. Total effort was estimated at 39 ang-hr and no fish were caught or harvested.

Fishing Mode

The use of ice huts was popular. Peninsula had the highest instantaneous hut count (23) accounting for 2016 ang-hr of effort (Table 7). Mary had the next highest number of huts (maximum of seven) with 1064 ang-hr of effort occurring. Fairy and Vernon only had one hut

each, with no effort being observed in either. Proportionally, hut-based activity accounted for 59% of estimated effort on Peninsula Lake and 48% on Mary Lake.

Table 7 Ice hut numbers and locations, Huntsville lakes winter creel survey, 2008.

Lake	General Location	Maximum number of huts observed
Fairy Lake	Rogers Cove	1
Mary Lake	Port Sydney	8
	Rocky Island	2
Peninsula Lake	Tally-Ho	16
	Maplehurst	6
	North Portage	1
	Pow Wow Point	1
Vernon Lake	Hutcheson Beach	1

Angler Demographics

A total of 256 anglers were observed during the winter creel of 2008. A total of 149 of these were found on Peninsula Lake, 1 on Fairy Lake, 10 on Vernon, and 96 on Mary Lake (Table 8).

All anglers were found to be residents of the Province of Ontario, with the majority being local to the area around the lake (Figure 6). On Peninsula Lake 79.9 % of the anglers were locals, while the remaining 20.1 % were from elsewhere in province. At Fairy Lake, the one observed angler was local. At Vernon Lake, 85.7 % were local, with the remaining 14.3 % coming from the surrounding area in province. Finally, at Mary Lake 82.8 % of the anglers and 17.2 % were from the rest of the province.

On all four lakes a large majority of anglers were day trippers, with most of the remainder being permanent or non-permanent residents of the lake on which they angled (Figure 7). On Peninsula, Fairy and Vernon Lake, most day trippers were from the Town of Huntsville and immediate area. Mary Lake had the highest proportion of permanent residents (27%); mostly from the community of Port Sydney.

Discussion

As no previous creel surveys were completed for these lakes, it is not known whether these estimates are above or below the average effort of past years. These figures will serve as a baseline for future studies.

Major factors that determined fishing location were accessibility, fishing quality, ice conditions and contaminant levels in fish. Peninsula had three access points, close to suitable fishing locations with parking room available. It is also the shallowest lake and does not have the Muskoka River flowing through it; therefore ice conditions were better, longer than on the other lakes. Catch rates were also best on Peninsula probably due to a combination of population density (higher lake trout stocking rate and better pike habitat) and catchability (water clarity). There is also less mercury in the lake trout (and pike) from Peninsula Lake than from the other three lakes. For anglers traveling any distance, Peninsula Lake was the lake of choice.

Table 8 Angler characteristics, Fairy, Mary, Peninsula and Vernon Lake winter creel survey, 2008.

		Fairy Lake	Mary Lake	Peninsula Lake	Vernon Lake
		Angler Proportion (%)	Angler Proportion (%)	Angler Proportion (%)	Angler Proportion (%)
Angler Origin	**Local**	100	79.2	79.9	80.0
	Ontario	0.0	20.8	20.1	20.0
	Canada	0.0	0.0	0.0	0.0
	U.S.	0.0	0.0	0.0	0.0
	Total Number of Anglers	1	96	149	10

		Fairy Lake	Mary Lake	Peninsula Lake	Vernon Lake
		Angler Proportion (%)	Angler Proportion (%)	Angler Proportion (%)	Angler Proportion (%)
Visitor Type	**Permanent Resident**	0.0	27.6	2.7	14.3
	Non-Permanent Resident	0.0	0.0	1.3	0.0
	Day Tripper	100	72.4	93.3	85.7
	Other - Paid	0.0	0.0	1.3	0.0
	Other – Non-Paid	0.0	0.0	1.3	0.0

Mary Lake has very good access at a suitable fishing location at Port Sydney, where most anglers were observed. For many anglers Mary Lake was a destination of convenience as the majority were residents of Port Sydney or the immediate area.

Lake Vernon had two public access points; the main one at Hutcheson Beach Road is close to the mouth of the Big East River, and therefore, susceptible to poor ice conditions.

Fairy Lake has very poor winter public access. Peninsula Lake is directly adjacent and has more favorable ice and probably a better fishery; therefore most anglers would probably choose to travel to Peninsula, even if access to Fairy was better. The exception may be permanent or non-permanent residents of Fairy Lake.

Very few anglers are seeking stocked lake trout in Fairy and Vernon Lakes in the winter. Summer effort has not been documented but is believed to be low as well. The cost-benefit of the current stocking strategy in these lakes should be reviewed.

No anglers reported fishing for or catching any walleye. A Fall Walleye Index Netting Survey (FWIN) conducted on Vernon Lake in the fall of 2007 found that a substantial population has become established. Also, a small number of fish were observed on suitable spawning habitat in

the river upstream from Mary Lake in the spring of 2008. We expect that walleye will increase in distribution and abundance in the system and attract a growing amount of interest from anglers. As with lake trout and pike, mercury contamination may be a factor that will limit the potential of the fishery. Tissue samples were collected in 2007 but results are not yet available. Habitat suitability (lake and stream spawning locations) appear best for Vernon and Mary Lakes.

Summary

The 2008 winter creel was the first time that the fishery of the Huntsville Lakes has been characterized. Peninsula and Mary Lakes received moderate amounts of fishing effort, directed at stocked lake trout and introduced northern pike. There was minimal winter fishing effort on Vernon and Fairy Lakes. The fishery is dominated by local resident day trippers. There were very few destination anglers. There was also minimal commercial (hut rental and guiding) activity. No walleye fishery was detected, but it is expected to increase as walleye abundance and distribution increases in the lakes. The stocking of lake trout in Fairy and Vernon Lakes should be rationalized and the fishery of all lakes should be promoted.

Acknowledgements

Brett Thomas led and completed the field work with the assistance of Christy MacDonald, Al Theiss, Ariel Zwicker and Trevor Griffin.

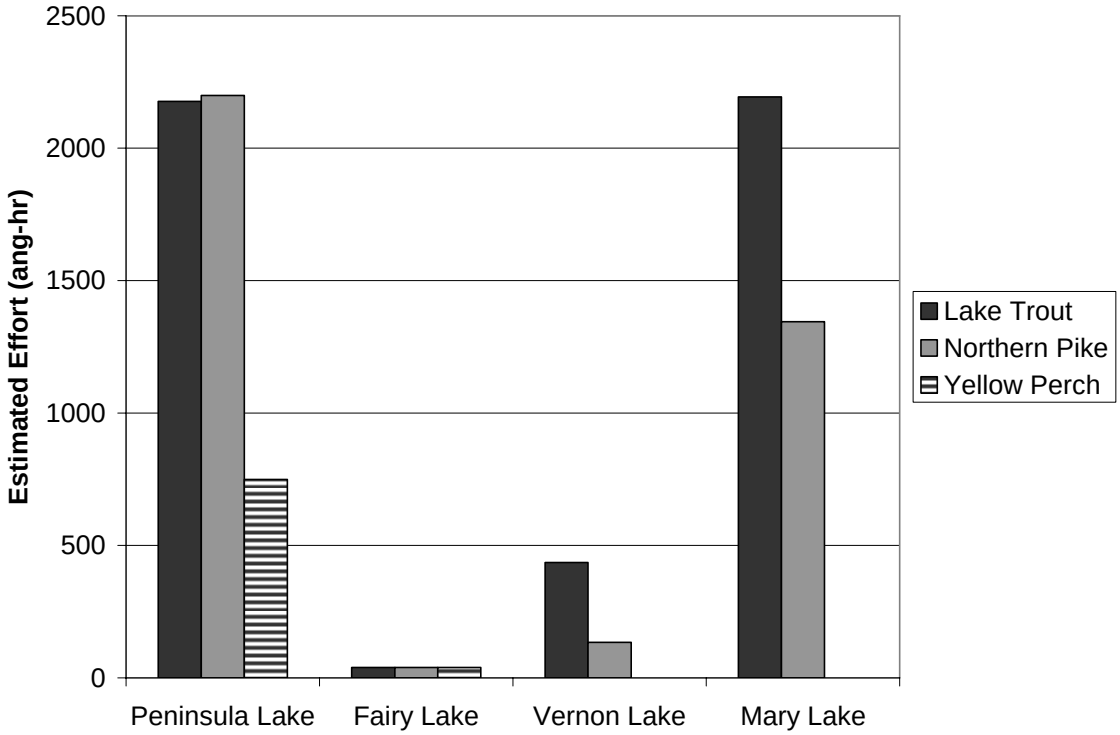


Figure 2 Estimated angler effort, by species, during the winter creel survey of Peninsula, Fairy, Vernon and Mary Lakes, 2008

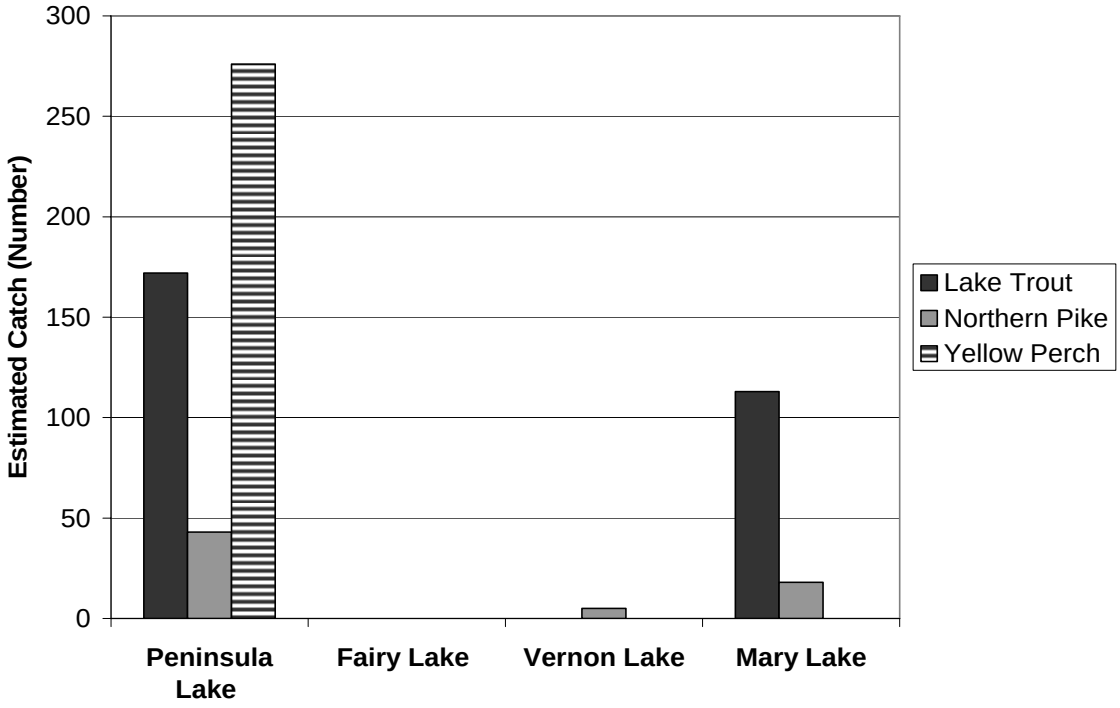


Figure 3 Estimated catch, by species, during the winter creel survey of Peninsula, Fairy, Vernon and Mary Lakes, 2008

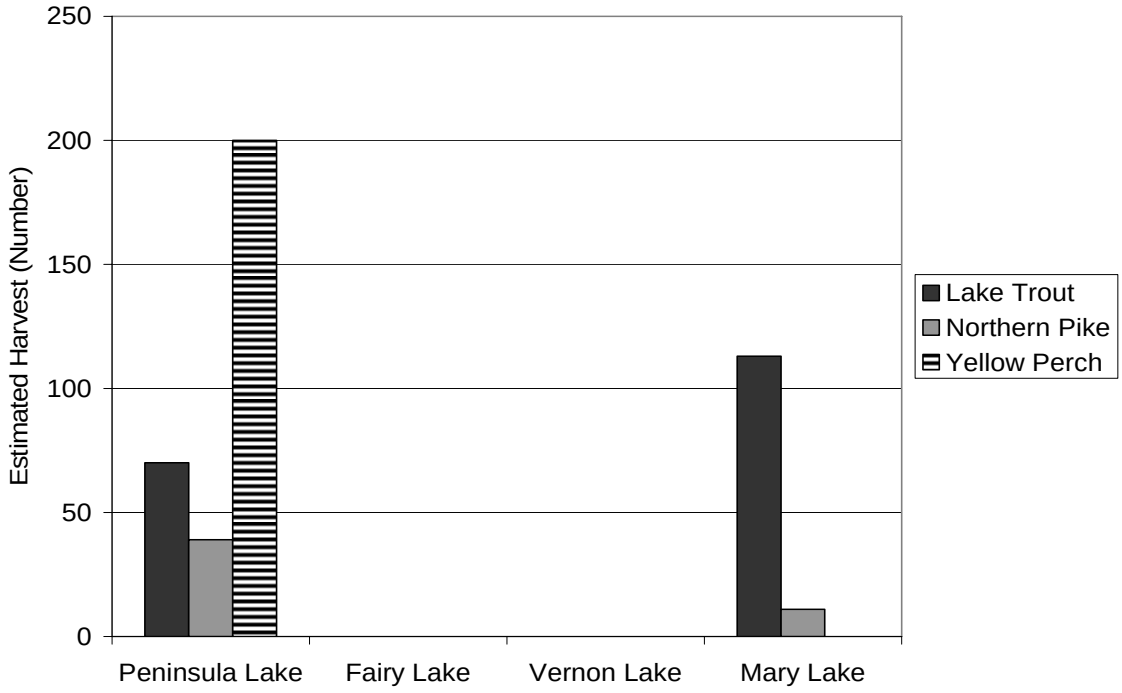


Figure 4 Estimated harvest, by species, during the winter creel survey of Peninsula, Fairy, Vernon and Mary Lakes, 2008

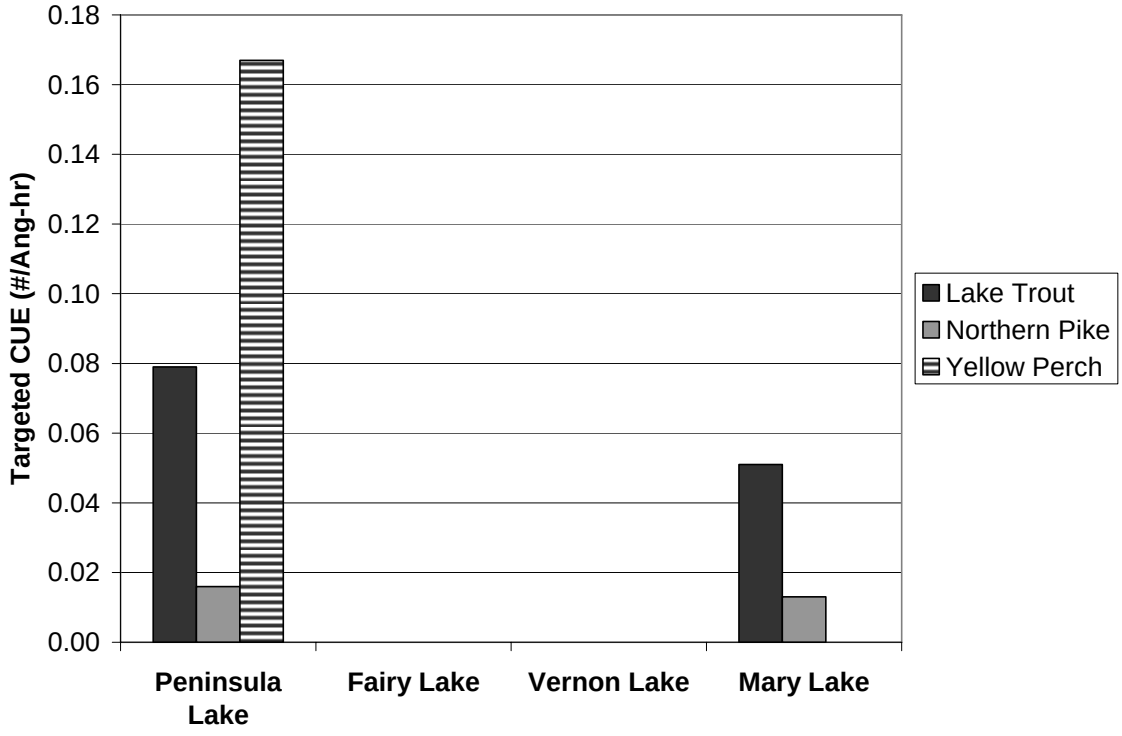


Figure 5 Targeted CUE, by species, during the winter creel survey of Peninsula, Fairy, Vernon and Mary Lakes, 2008

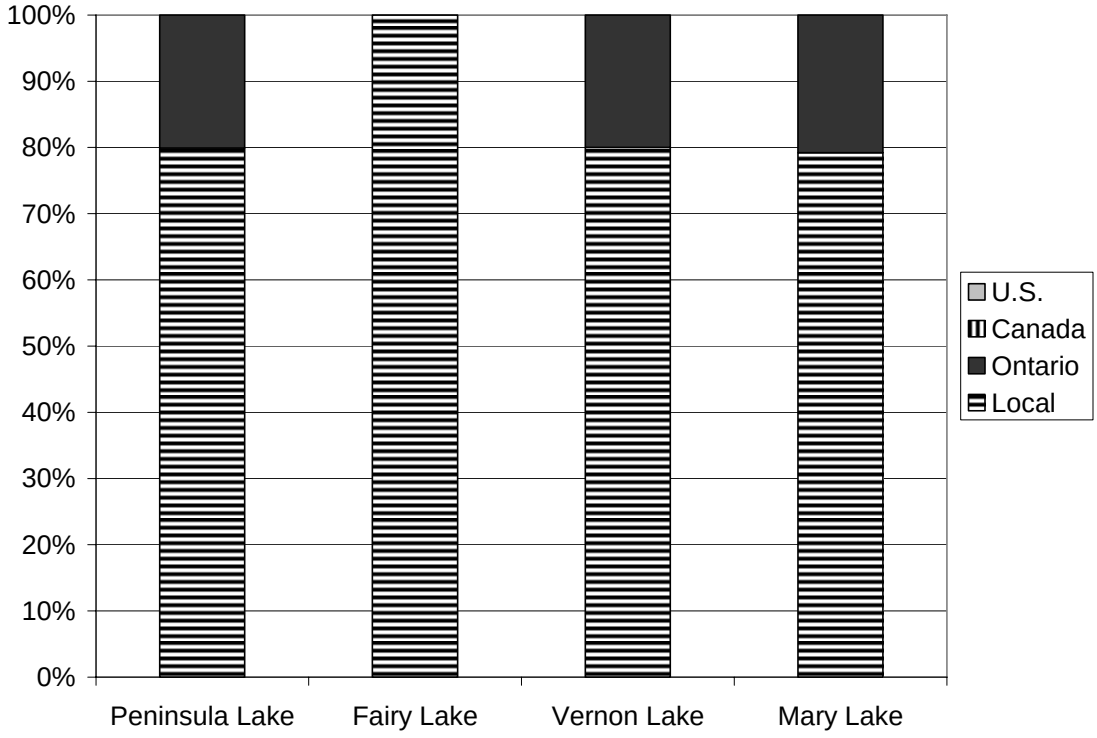


Figure 6 Angler origin, as a proportion, during the winter creel survey of Peninsula, Fairy, Vernon and Mary Lakes, 2008.

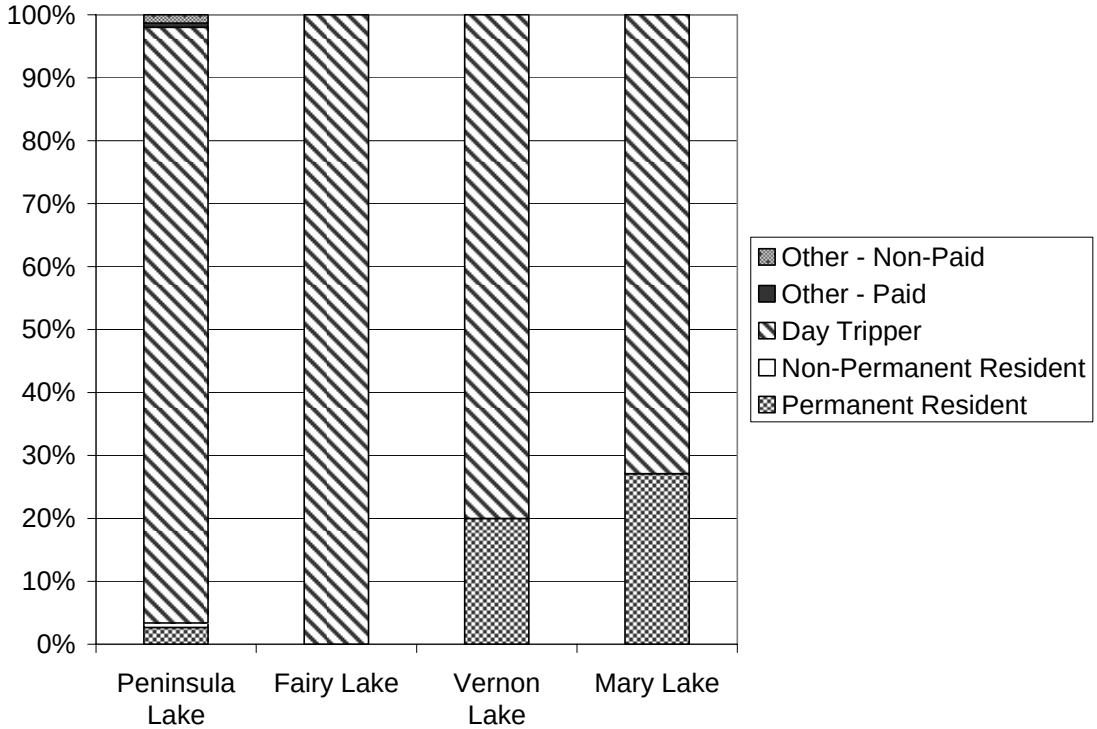


Figure 7 Angler visitor type, as a proportion, during the winter creel survey of Peninsula, Fairy, Vernon and Mary Lakes, 2008.